



# CBM Guidance



- DoD – CBM Memorandum Dated Nov 03
- DA G-4 – Army CBM Plus Plan Dated Apr 04
- DA G-4 – Aviation White Paper CBM Plus Plan Dated Dec 04
- DA Incorporating into Updated AR 750-1



"CBM will have a dramatic, positive effect in two critical areas: it will reduce the overall maintenance burden to the soldier; and it will increase readiness to the warfighting commander"

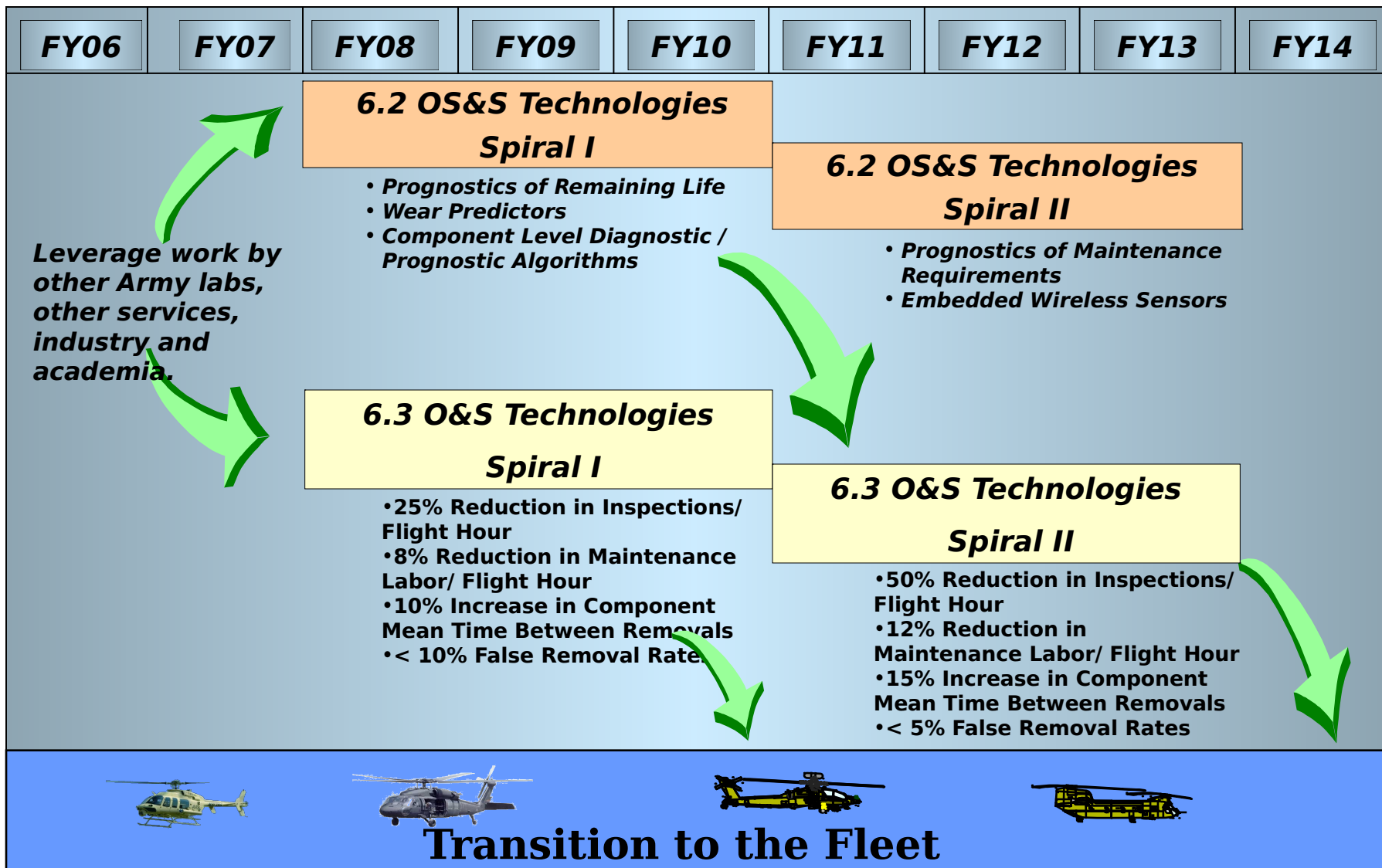
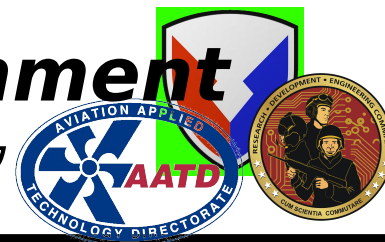
"It is the most important initiative we can undertake after our continuing support to the warfighter."

**MG Pillsbury, Commanding General of the U.S. Army Aviation and Missile Command**



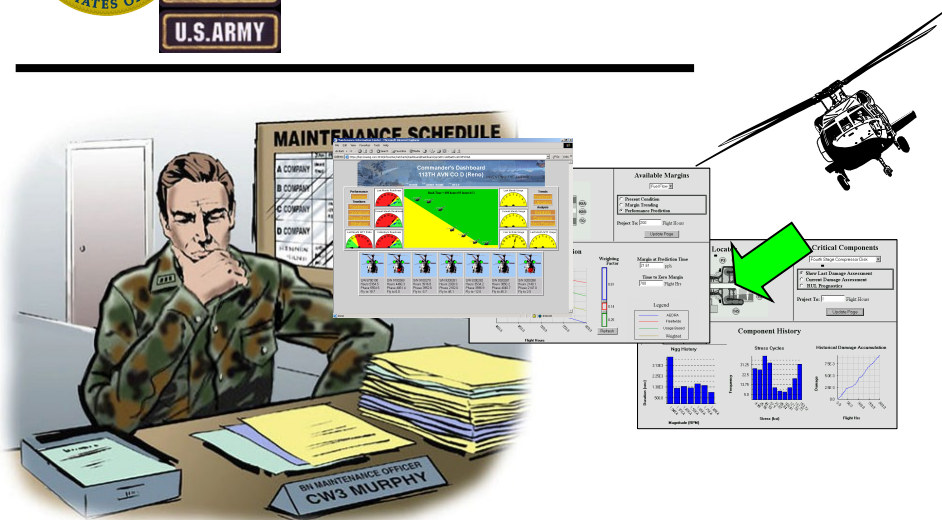
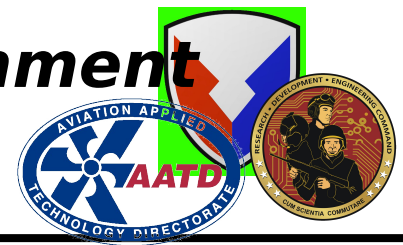
# Operations Support & Sustainment

## Aviation S&T Area Overview





# 6.3 Operations Support & Sustainment Technologies



**Schedule & Cost**

MILESTONES	FY08	FY09
FY10		
Propulsion		
Structures		
Electrical Power/Wiring		
Rotors/Dynamic		
Components		
Drive Systems		
Flight Controls/Hydraulics		
Rig/Flight Testing		
	\$4M	\$5M
		\$6M

TRL 6

## Program Objective:

**Provide capability to ...**

**Provide useful prognostics and system health information to support maintenance and operational decisions**

## Product:

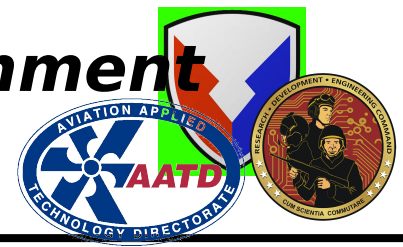
- System-Level, Prognostic/Diagnostic Algorithms Covering Corrosion, Rotor System, Aircraft Usage, subsystems and Engine Faults/Performance
- Demonstrated embedded/wireless sensors, sensor fusion, system level damage progression and probabilistic models

## Impact:

- Improved Availability
- Reduced Maintainer's Workload
- Reduced Inspections
- Convert Unscheduled Maintenance to Planned Maintenance
- Reduced False Removals
- Improved Safety /Reduction in



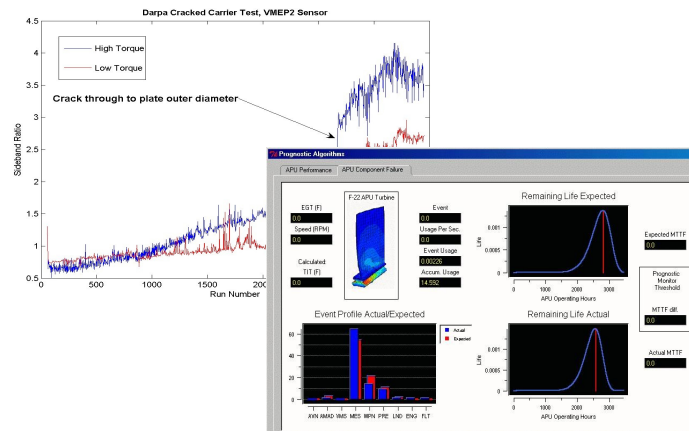
## 6.3 Operations Support & Sustainment Technologies



- Program Objectives (without increase in safety of flight risk)
  - Reduction of Inspections and Preventative Maintenance
  - Expansion of Serviceability Criteria
  - Extension of Life or Time Between Overhaul
  - Prediction of Failure with Sufficient Fidelity to Allow Scheduling of Maintenance
- Demonstration Metrics (2010)
  - 25% Reduction in Inspections/ Flight Hour
  - 8% Reduction in Maintenance Labor/ Flight Hour
  - 10% Increase in Component Mean Time Between Removals
  - < 10% False Removal Rates



# 6.2 Operations & Sustainment Technologies



## Schedule & Cost

MILESTONES	FY08	FY09
FY10		
Propulsion		
Structures		
Electrical Power/Wiring		
Rotors/Dynamic		
Components		
Drive Systems		
Flight Controls/Hydraulics		
Bench Testing		
	\$2M	\$2M

TRL 4

## Program Objective:

**Provide capability to ...**

**Use Real-time Assessments of Material Condition Obtained From Embedded Sensors and Other Data Sources to Improve Diagnostics and Prognostics Capabilities**

## Product:

- **Component-Level, Diagnostic and Prognostic Algorithms Covering Hydraulics, Flt Controls, Structural Components, Engine Components, Rotors, Electrical System**

## Impact:

- **Improved Availability**
- **Reduced Maintainer's Workload**
- **Reduced Inspections**
- **Convert Unscheduled Maintenance to Planned Maintenance**
- **Reduced False Removals**
- **Improved Safety**



## ***6.2 Operations & Sustainment Technologies***



- 6.2 Efforts Support Future 6.3 Demonstration (FY11-13). Future 6.3 Goals Below:
- Program Objectives (without increase in safety of flight risk)
  - Reduction of Inspections and Preventative Maintenance
  - Expansion of Serviceability Criteria
  - Extension of Life or Time Between Overhaul
  - Prediction of Failure with Sufficient Fidelity to Allow Scheduling of Maintenance
- Demonstration Program Metrics (2013)
  - 50% Reduction in Inspections/ Flight Hour
  - 12% Reduction in Maintenance Labor/ Flight Hour
  - 15% Increase in Component Mean Time Between Removals
  - < 5% False Removal Rates